

APRIL/MAY 2024

**DAM23/GAM23 — MOLECULAR BIOLOGY
AND MICROBIAL GENETICS**

Time : Three hours

Maximum : 75 marks



SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define linking number.
2. What are cot curves?
3. Define primase.
4. What is excision repair?
5. Define spilt genes.
6. Define polypeptides.
7. Write a note on pBR32.
8. What is the function of DNA ligase?
9. What are interferons?
10. Define genetic engineering.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.

11. (a) Explain the structure of RNA.
- Or
- (b) Write in short different forms of DNA.
12. (a) Write a note on semi- conservative mode of replication.
- Or
- (b) Discuss about DNA repair mechanism.
13. (a) Explain about RNA splicing.
- Or
- (b) Discuss on regulation of gene expression.
14. (a) Explain about preparation of DNA library.
- Or
- (b) Write a note on factors affecting PCR and application of PCR.
15. (a) Explain in brief gene therapy.
- Or
- (b) Write a note on production of insulin using rDNA technology.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Describe the Salient features of double helix DNA.
17. Explain in detail about the replication of DNA.
18. Discuss about the mechanism of translation.
19. Explain the basics steps of recombinant DNA technology.
20. Define Hybridoma technology and explain the production of monoclonal antibodies.
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